



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,509	10/10/2003	Kazuhiro Kimura	2003-1335	9883

513 7590 02/07/2006

WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

WILKINS III, HARRY D

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/682,509	Applicant(s) KIMURA, KAZUHIRO	
	Examiner Harry D. Wilkins, III	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/654,354.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/10/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The specification should be updated with the current status of the parent application, including the patent number.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9, 13 and 14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. These claims recite compositional limitations for secondary elements (Cr for claim 9, Mo and W for claim 13, and Co for claim 14) with only lower limits for the composition. A person skilled in the art would not have been able to set forth the upper limits on these elements without undue experimentation. In addition, the composition, as claimed, could include more than 50 wt% of each of the claimed elements, which would make the composition not a steel.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1742

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Koike et al (US 4,374,683).

Koike et al anticipate the invention as claimed. Koike et al teach (see abstract) a method for producing a ferritic stainless steel including 12-25 wt% Cr, including the steps of hot working (rolling) followed by annealing at 950-1050°C followed by air cooling (see col. 5, lines 60-67). Koike et al further teach (see col. 6, lines 36-44) that niobium in the metallic alloy can cause an intermetallic Laves phase to precipitate in the alloy.

6. Claims 9-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujitsuna et al (US 2002/0011285).

Fujitsuna et al anticipate the invention as claimed. Fujitsuna et al teach (see abstract and paragraphs nos. 11, 14-16, 55, 77 and 87-91) a method for producing a ferritic stainless steel including 8-13 wt% Cr, including the steps of hot forging followed by annealing at 1100°C followed by air cooling. Fujitsuna et al further teach that molybdenum and tungsten in the metallic alloy caused an intermetallic Laves phase to precipitate in the alloy.

Regarding claims 13-15, Fujitsuna et al teach (see paragraphs 14-16) that the composition included 0-2.0 wt% Mo, 0-4.0 wt% W, up to 5.0 wt% Co, 8-13 wt% Cr, 0.02-0.18 wt%C, up to 0.1 wt% N, up to 0.01 wt% B, 0.02-0.14 wt% Nb and a balance

Art Unit: 1742

of Fe. The composition of Fujitsuna et al included various other elements, however, the present claims are presented with open claim language, leaving the composition open to other metals, even in major amounts.

7. Claims 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagel et al (US 4,049,431).

Hagel et al anticipate the invention as claimed. Hagel et al teach (see abstract and col. 2, lines 35-56) a method for producing a ferritic stainless steel including 9-13 wt% Cr, including the steps of hot working the cast material, followed by annealing at 1100-1200°C followed by air cooling. Hagel et al further teach (see col. 1, lines 39-42) that the alloy contained Laves phase precipitates due to the high content of molybdenum in the alloy.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagel et al (US 4,049,431) in view of Fujitsuna et al (US 2002/0011285).

The teachings of Hagel et al are described above.

Hagel et al do not teach including Co in the alloy.

Fujitsuna et al (see abstract and paragraphs nos. 11, 14-16, 55, 77 and 87-91) a similar ferritic stainless steel, including 0-4 wt% W and up to 5 wt% Co. The tungsten is

Art Unit: 1742

added for substantially the same reason as Mo, solution strengthening. The cobalt is added to retard the formation of δ -ferrite.

Therefore, it would have been obvious to one of ordinary skill in the art to have added some W and some Co as taught by Fujitsuna et al to the alloy of Hagel et al because the W would have added additional solution strengthening and the Co would have retarded the formation of δ -ferrite.

Regarding claim 15, Hagel et al teach an alloy including 9-13 wt% Cr, 4-8 wt% Mo, 0.04-0.12 wt% C, up to 0.05 wt% N, no boron, 0.2-0.8 wt% Nb and the remainder substantially Fe. As above, Fujitsuna et al suggest adding 0-4 wt% W and up to 5 wt% Co.

The composition of Hagel et al included various other elements, however, the present claims are presented with open claim language, leaving the composition open to other metals, even in major amounts.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Harry D Wilkins, III
Examiner
Art Unit 1742

hdw